

**GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION NO. 2975
ANSWERED ON 06/08/2025**

IMPLEMENTATION STATUS OF VAJRA SCHEME

2975. SHRI DAGGUMALLA PRASADA RAO:

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) the details of the number of faculty and scholars that have participated Visiting Advanced Joint Research (VAJRA) scheme till date, State, years and gender-wise;**
- (b) the list of academic institutions in India and abroad participating under the scheme;**
- (c) the quantum of funds allocated, released and utilised under this scheme to participating faculty, institute-wise;**
- (d) the details of the number of research projects initiated and successfully completed under this scheme, institute-wise;**
- (e) whether any outreach programs were conducted in foreign diaspora hubs for promoting collaborating research under VAJRA scheme, if so, the details thereof, Country-wise; and**
- (f) whether the Government maintains the data of the number of patents/start-ups generated from VAJRA projects and if so, the details thereof, State-wise?**

ANSWER

**MINISTER OF STATE (INDEPENDENT CHARGE) OF THE
MINISTRY OF SCIENCE AND TECHNOLOGY AND EARTH SCIENCES
(DR. JITENDRA SINGH)**

विज्ञान और प्रौद्योगिकी तथा पृथक् विज्ञान मंत्रालय के राज्य मंत्री (स्वतंत्र प्रभार)
(डॉ. जितेंद्र सिंह)

- (a) The state, year and gender-wise details of the number of VAJRA faculties that have participated in Visiting Advanced Joint Research (VAJRA) scheme till date is given below:-**

Year - 2017-18

| State | No. of VAJRA projects Sanctioned | Gender (Male/Female) |
|-----------------------|---|-----------------------------|
| Karnataka | 2 | Male - 2 |
| Gujarat | 1 | Male - 1 |
| Maharashtra | 2 | Male - 1, Female - 1 |
| Madhya Pradesh | 1 | Male - 1 |
| New Delhi | 1 | Male - 1 |

Year 2018-19

| | | |
|-----------------------|-----------|-----------------------------|
| Gujarat | 1 | Female - 1 |
| Karnataka | 4 | Male - 3, Female - 1 |
| Kerala | 2 | Male - 1 |
| Madhya Pradesh | 1 | Male - 1 |
| Maharashtra | 2 | Male - 2 |
| New Delhi | 2 | Male - 2 |
| Punjab | 1 | Male - 1 |
| Tamil Nadu | 12 | Male - 9, Female - 3 |
| Telangana | 2 | Male - 2 |
| Uttar Pradesh | 5 | Male - 3, Female - 2 |
| West Bengal | 1 | Male - 1 |

Year 2019-20

| | | |
|--------------------|----------|-----------------|
| Karnataka | 2 | Male - 2 |
| Maharashtra | 2 | Male - 2 |
| West Bengal | 1 | Male - 1 |
| Telangana | 1 | Male - 1 |

Year 2020-21

| | | |
|-------------------|----------|-----------------------------|
| Tamil Nadu | 2 | Male - 1, Female - 1 |
|-------------------|----------|-----------------------------|

Year 2021-22

| | | |
|--------------------|----------|-----------------------------|
| Karnataka | 3 | Male - 3 |
| Maharashtra | 1 | Male - 1 |
| New Delhi | 6 | Male - 5, Female - 1 |
| Odisha | 2 | Male - 1, Female - 1 |
| Tamil Nadu | 2 | Male - 2 |
| Telangana | 2 | Male - 1, Female - 1 |
| Uttarakhand | 2 | Male - 1, Female - 1 |

Year 2022-23

| State | No. of VAJRA projects Sanctioned | Gender (Male/Female) |
|-----------------------|---|-----------------------------|
| Karnataka | 1 | Male – 1 |
| Kerala | 1 | Male – 1 |
| Madhya Pradesh | 2 | Female - 2 |
| Maharashtra | 4 | Male – 4 |
| New Delhi | 3 | Male – 3 |
| Punjab | 1 | Male – 1 |
| Tamil Nadu | 1 | Male – 1 |
| Uttar Pradesh | 4 | Male – 4 |
| West Bengal | 1 | Female - 1 |

Year 2023-24

| | | |
|--------------------|----------|-----------------|
| Tamil Nadu | 1 | Male - 1 |
| Assam | 1 | Male – 1 |
| Maharashtra | 1 | Male – 1 |
| Gujarat | 1 | Male - 1 |

Year 2024-25

| | | |
|----------------------|----------|-------------------|
| Tamil Nadu | 1 | Male – 1 |
| Uttarakhand | 1 | Female - 1 |
| Maharashtra | 1 | Male – 1 |
| Assam | 1 | Male – 1 |
| Karnataka | 4 | Male – 4 |
| Uttar Pradesh | 3 | Male – 3 |
| Haryana | 1 | Male – 1 |
| Goa | 1 | Male – 1 |
| West Bengal | 1 | Male – 1 |
| Kerala | 1 | Male - 1 |

Year 2025-26

| | | |
|---------------|----------|-----------------|
| Punjab | 1 | Male - 1 |
|---------------|----------|-----------------|

(b) The list of academic institutions in India and abroad participating under the scheme is given below:-

i. List of Indian Institutes participating under the scheme

| S. No. | Institute |
|---------------|--|
| 1. | Indian Institute of Technology Madras |
| 2. | Indian Institute of Science, Bengaluru |
| 3. | Indian Institute of Technology Bombay |
| 4. | Indian Institute of Technology Delhi |
| 5. | National Centre for Biological Sciences, Bengaluru |
| 6. | Tata Institute of Fundamental Research, Mumbai |
| 7. | Raman Research Institute, Bengaluru |
| 8. | Indian Institute of Technology Kanpur |
| 9. | Indian Institute of Technology BHU |
| 10. | Indian Institute of Technology Gandhinagar |
| 11. | Indian Institute of Technology Hyderabad |
| 12. | Indian Institute of Technology Indore |
| 13. | Indian Institute of Technology Kharagpur |
| 14. | Indian Institute of Technology Ropar |
| 15. | Indian Statistical Institute, Bengaluru |
| 16. | Institute of Mathematical Sciences, Chennai |
| 17. | International Institute of Information Technology Hyderabad |
| 18. | Cochin University of Science & Technology |
| 19. | S N Bose National Centre for Basic Sciences, Kolkata |
| 20. | Sree Chitra Tirunal Institute for Medical Sciences & Technology |
| 21. | Indian Institute of Science Education and Research Pune |
| 22. | Indian Institute of Technology Bhubaneswar |
| 23. | Harish-Chandra Research Institute |
| 24. | Inter-University Accelerator Centre, New Delhi |
| 25. | Punjabi University |

| S. No. | Institute |
|---------------|--|
| 26. | National Institute of Ocean Technology |
| 27. | National Institute of Technology, Silchar |
| 28. | University of Delhi, South Campus |
| 29. | International Centre for Theoretical Sciences, TIFR |
| 30. | Indian Institute of Technology Roorkee |
| 31. | Institute of Life Sciences |
| 32. | Central University of Kerala |
| 33. | Aryabhatta Research Institute of Observational Sciences (ARIES), Nainital |
| 34. | National Institute of Oceanography, Goa |
| 35. | Choudhary Charan Singh Haryana Agricultural University, Hisar |
| 36. | Centre for Nano and Soft matter sciences (CeNS), Bengaluru |
| 37. | Bose Institute, Kolkata |
| 38. | National Institute of Technology Calicut |
| 39. | Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru |

ii. List of Overseas Institutes participating under the scheme

| S No | Institute Name | Country |
|-------------|--|-----------------------|
| 1. | Steklov Institute of Mathematics | Russia |
| 2. | Queensland University of Technology | Australia |
| 3. | Arizona State University | USA |
| 4. | Seoul National University | South Korea |
| 5. | Michigan Technological University | USA |
| 6. | Ohio State University | USA |
| 7. | Sheffield University | United Kingdom |

| S No | Institute Name | Country |
|------|---|-----------------------|
| 8. | University of Milan | Italy |
| 9. | University of North Carolina and North Carolina State University | USA |
| 10. | Pennsylvania State University | USA |
| 11. | Swinburne University of Technology | Australia |
| 12. | Georgia Institute of Technology | USA |
| 13. | Virginia Commonwealth University | USA |
| 14. | Texas A&M University | USA |
| 15. | University of Kentucky | USA |
| 16. | Rice University | USA |
| 17. | Washington University in St. Louis | USA |
| 18. | University of Houston | USA |
| 19. | Swansea University | United Kingdom |
| 20. | National University of Singapore | Singapore |
| 21. | University Paris-Est Marne-La-Vallée France | France |
| 22. | University of Southern California | USA |
| 23. | University of Toronto | Canada |
| 24. | Missouri University of Science and Technology (MST) | USA |
| 25. | Drexel University | USA |
| 26. | University of Calgary | Canada |
| 27. | Universite Pierre et Marie Curie, Paris | France |
| 28. | University of Illinois at Urbana-Champaign | USA |

| S No | Institute Name | Country |
|------|---|-----------------------|
| 29. | Michigan State University | USA |
| 30. | Purdue University | USA |
| 31. | University of Melbourne | Australia |
| 32. | RMIT University | Australia |
| 33. | Pontificia Universidad Católica de Chile | Chile |
| 34. | University of Surrey Guildford | United Kingdom |
| 35. | Dublin City University | Ireland |
| 36. | Monash University | Australia |
| 37. | Universite Paris-Sud | France |
| 38. | Massachusetts Institute of Technology | USA |
| 39. | Trinity College | Ireland |
| 40. | Weizmann Institute of Science | Israel |
| 41. | State University of Sao Paulo (Unesp) | Brazil |
| 42. | University California, San Diego | USA |
| 43. | University Of Rhode Island | USA |
| 44. | Gsi GmbH, Darmstadt | Germany |
| 45. | University Of Cape Town | South Africa |
| 46. | Tu Dresden | Germany |
| 47. | Oklahoma State University | USA |
| 48. | University Of Notre-dame | USA |
| 49. | Tufts University | USA |
| 50. | University of Massachusetts Dartmouth | USA |

| S No | Institute Name | Country |
|------|--|-----------------------|
| 51. | Utrecht University | Netherlands |
| 52. | University at Buffalo | USA |
| 53. | University Of Nebraska-lincoln | USA |
| 54. | University of New Mexico | USA |
| 55. | University of Missouri | USA |
| 56. | University of Oslo | Norway |
| 57. | Universität Bayreuth | Germany |
| 58. | University of Birmingham | United Kingdom |
| 59. | Technische Universität Darmstadt | Germany |
| 60. | University of South Carolina | USA |
| 61. | Aix-Marseille Université, Institut Fresnel, Ecole CentraleMarseille | France |
| 62. | University of Gothenburg | Sweden |
| 63. | Natural History Museum | United Kingdom |
| 64. | Louisiana State University | USA |
| 65. | Technical University of Dortmund | Germany |
| 66. | Technion-Israel Institute of Technology | Israel |
| 67. | Brookhaven National Laboratory | USA |
| 68. | Technical University Munich | Germany |
| 69. | CNR - Institute for Complex Systems | Italy |
| 70. | University Of Illinois at Chicago | USA |
| 71. | Helmholtzzentrum Muenchen | Germany |
| 72. | National University of Singapore | Singapore |

| S No | Institute Name | Country |
|------|---|-----------------------|
| 73. | University of Tokyo | Japan |
| 74. | University of New South Wales | Australia |
| 75. | California State University | USA |
| 76. | University of California, Los Angeles | USA |
| 77. | Ecole Normale Supérieure- Cachan | France |
| 78. | Université de Liège | Belgium |
| 79. | University of California, Davis | USA |
| 80. | New Jersey Institute of Technology | USA |
| 81. | Kyushu University | Japan |
| 82. | Center for Genetic Regulation (CRG) | Spain |
| 83. | La Trobe University | Canada |
| 84. | Aberystwyth University | United Kingdom |
| 85. | Institut de Physique du Globe de Paris | France |
| 86. | University Of Kansas Medical Center | USA |
| 87. | University of Potsdam | Germany |
| 88. | JP Morgan & Chase | USA |
| 89. | Lehigh University | USA |
| 90. | University of Stuttgart | Germany |

(c) The duration of engagement for “VAJRA Faculty” was limited to a maximum of three months per year. The program provided financial support of USD 15,000 in the first month of residence, followed by USD 10,000 for each subsequent month. In addition, a contingency grant of ₹5.0 lakh per year was made available per VAJRA faculty for the research-related expenses during their visit to the host

institution. No separate support was provided for travel, accommodation, medical / personal insurance etc.”

The Indian Collaborator was provided financial assistance to cover the expenses related to collaborative research activities. Additionally, ₹1.0 lakh was allocated to support the engagement of the VAJRA faculty in delivering lectures at the host institute, aligned with their area of expertise.

The details of quantum of funds released and utilised under this scheme to participating faculty, institute-wise is given below:-

| S. No. | Institute | Funds released (amount in crores) | Funds utilised (amount in crores) |
|---------------|---|--|--|
| 1. | Indian Institute of Technology Madras | 3.88 | 3.17 |
| 2. | Indian Institute of Science | 2.43 | 1.70 |
| 3. | Indian Institute of Technology Bombay | 1.60 | 0.82 |
| 4. | Indian Institute of Technology Delhi | 2.74 | 1.83 |
| 5. | National Centre for Biological Sciences | 0.60 | 0.60 |
| 6. | Tata Institute of Fundamental Research, Mumbai | 0.78 | 0.78 |
| 7. | Raman Research Institute, Bengaluru | 0.65 | 0.55 |
| 8. | Indian Institute of Technology Kanpur | 1.66 | 0.96 |
| 9. | Indian Institute of Technology, BHU | 0.30 | 0.30 |
| 10. | Indian Institute of Technology, Gandhinagar | 0.92 | 0.91 |
| 11. | Indian Institute of Technology, Hyderabad | 1.33 | 1.02 |
| 12. | Indian Institute of Technology, Indore | 0.60 | 0.60 |

| S. No. | Institute | Funds released (amount in crores) | Funds utilised (amount in crores) |
|---------------|--|--|--|
| 13. | Indian Institute of Technology Kharagpur | 0.19 | 0.10 |
| 14. | Indian Institute of Technology, Ropar | 0.34 | 0.20 |
| 15. | Indian Statistical Institute, Bangalore | 0.24 | 0.24 |
| 16. | Institute of Mathematical Sciences | 0.13 | 0.13 |
| 17. | International Institute of Information Technology Hyderabad | 0.12 | 0.12 |
| 18. | Cochin University of Science & Technology | 0.10 | 0.10 |
| 19. | S N Bose National Centre for Basic Sciences, Kolkata | 0.74 | 0.53 |
| 20. | Sree Chitra Tirunal Institute for Medical Sciences & Technology | 0.11 | 0.10 |
| 21. | Indian Institute of Science Education and Research Pune | 0.72 | 0.48 |
| 22. | Indian Institute of Technology Bhubaneswar | 0.62 | 0.30 |
| 23. | Harish-Chandra Research Institute | 0.18 | 0.18 |
| 24. | Inter-University Accelerator Centre, New Delhi | 0.91 | 0.87 |
| 25. | Punjabi University | 0.47 | 0.32 |
| 26. | National Institute of Ocean Technology | 0.31 | 0.14 |
| 27. | National Institute of Technology, Silchar | 0.49 | 0.21 |
| 28. | University of Delhi, South Campus | 0.78 | 0.46 |

| S. No. | Institute | Funds released (amount in crores) | Funds utilised (amount in crores) |
|---------------|--|--|--|
| 29. | International Centre for Theoretical Sciences, TIFR | 0.92 | 0.54 |
| 30. | Indian Institute of Technology Roorkee | 0.61 | 0.40 |
| 31. | Institute of Life Sciences | 0.33 | 0.31 |
| 32. | Central University of Kerala | 0.30 | 0.15 |
| 33. | Aryabhatta Research Institute of Observational Sciences (ARIES) | 0.37 | 0.16 |
| 34. | National Institute of Oceanography, Goa | 0.23 | 0.0 |
| 35. | Choudhary Charan Singh Haryana Agricultural University | 0.15 | 0.15 |
| 36. | Centre for Nano and Soft matter sciences (CeNS) | 0.20 | 0.05 |
| 37. | Bose Institute | 0.20 | 0.17 |
| 38. | National Institute of Technology Calicut | 0.18 | 0.0 |
| 39. | Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru | 0.60 | 0.40 |

(d) The details of the number of research projects initiated and successfully completed under this scheme, institute-wise:-

| S. No. | Institute | No of projects initiated | No of projects completed |
|---------------|--|---|-------------------------------------|
| 1. | Indian Institute of Technology Madras | 17 | 15 |
| 2. | Indian Institute of Science | 7 | 4 |

| S. No. | Institute | No of projects initiated | No of projects completed |
|---------------|--|---------------------------------|---------------------------------|
| 3. | Indian Institute of Technology Bombay | 6 | 3 |
| 4. | Indian Institute of Technology Delhi | 8 | 3 |
| 5. | National Centre for Biological Sciences | 3 | 1 |
| 6. | Tata Institute of Fundamental Research, Mumbai | 4 | 4 |
| 7. | Raman Research Institute, Bengaluru | 2 | 2 |
| 8. | Indian Institute of Technology Kanpur | 9 | 4 |
| 9. | Indian Institute of Technology, BHU | 2 | 2 |
| 10. | Indian Institute of Technology, Gandhinagar | 3 | 3 |
| 11. | Indian Institute of Technology, Hyderabad | 4 | 1 |
| 12. | Indian Institute of Technology, Indore | 4 | 4 |
| 13. | Indian Institute of Technology, Ropar | 2 | 1 |
| 14. | Indian Statistical Institute, Bangalore | 1 | 1 |
| 15. | Institute of Mathematical Sciences | 1 | 1 |
| 16. | International Institute of Information Technology Hyderabad | 1 | 1 |
| 17. | Cochin University of Science & Technology | 1 | 1 |
| 18. | S N Bose National Centre for Basic Sciences, Kolkata | 2 | 1 |

| S. No. | Institute | No of projects initiated | No of projects completed |
|---------------|--|---------------------------------|---------------------------------|
| 19. | Sree Chitra Tirunal Institute for Medical Sciences & Technology | 1 | 1 |
| 20. | Indian Institute of Science Education and Research Pune | 3 | 2 |
| 21. | Inter-University Accelerator Centre, New Delhi | 2 | 1 |
| 22. | Indian Institute of Technology Roorkee | 2 | 2 |
| 23. | Institute of Life Sciences | 1 | 1 |
| 24. | Harish-Chandra Research Institute | 1 | 1 |
| 25. | Aryabhatta Research Institute of Observational Sciences (ARIES) | 1 | 0 |
| 26. | Bose Institute, Kolkata | 1 | 0 |
| 27. | CCS Haryana Agricultural University, Hissar | 1 | 0 |
| 28. | Centre for Nano and Soft matter sciences (CeNS) | 1 | 0 |
| 29. | Central University of Kerala | 1 | 0 |
| 30. | National Institute of Oceanography, Goa | 1 | 0 |
| 31. | Indian Institute of Technology Kharagpur | 1 | 0 |
| 32. | Indian Institute of Technology, Bhubaneswar | 1 | 0 |
| 33. | National Institute of Ocean Technology, Chennai | 1 | 0 |
| 34. | Jawaharlal Nehru Centre for Advanced Scientific Research | 1 | 0 |

| S. No. | Institute | No of projects initiated | No of projects completed |
|---------------|--|---------------------------------|---------------------------------|
| 35. | International Centre for Theoretical Sciences (ICTS), Bengaluru | 1 | 0 |
| 36. | National Institute of Technology Calicut | 1 | 0 |
| 37. | University of Delhi, South Campus | 2 | 0 |
| 38. | Punjabi University | 1 | 0 |
| 39. | NIT Silchar, Assam | 2 | 0 |

(e) NIL.

(f) VAJRA Scheme has been conceptualized to bring an international dimension to the R&D ecosystem of India by leveraging overseas scientists' expertise to the Indian research framework and catalyzing potential institutional collaborations through faculty exchange. The state-wise details of patents, as available with the Department of Science and Technology (DST), are provided below:-

| Patents Filed in India: |
|---|
| Punjab: |
| <p>1. Singh, Malkeet, Singh, Harpreet, Berndt, Charles Christopher, (2018) "A Technology and Process for Coating a Substrate with Swarf Particles," Application No: 201811029355., Date of Filing: 03/August/2018. Request for Examination Filed: YES</p> <p>2. Singh, Malkeet, Singh, Harpreet, Berndt, Charles Christopher, Sarkar, Prabir, (2019) "A Technology and Process for 3D Printing Using Swarf Particles," Application No: 201923001267., Date of Filing: 10/January/2019. Request for Examination Filed: YES</p> |

Uttar Pradesh:

- (i) A process for making solid-state ion sensor for on-chip determination of potassium ion in body fluid. Indian Patent 201811041978;**
- (ii) A process for making microneedle-based transdermal biosensor involving polyethylenimine-modified Prussian blue-gold nanohybrids-enzyme ink for on-chip electrochemical biosensing in body fluid. Indian Patent 201811049930.**

Odisha:

Patent application in preparation 'Development of an Infectious Clone for an Indian Strain of Chikungunya Virus'

Patent Filed in United States

- 1. Singh, Malkeet., Singh, Harpreet., Berndt, Charles Christopher., (2019) "A Technology and Process for Coating a Substrate with Swarf Particles," US Patent Application No. 16/352,331., Date of Filing: 13/March/2019. Request for Examination Filed: YES**
